

Call Me *Allium*: A Guide to Oregon's Native Onions



Allium acuminatum. Ochoco scablands, July 2, 2022.

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Call Me *Allium*: A Guide to Oregon's Native Onions

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Cover photograph of the *Allium acuminatum* extravaganza in the Ochoco Mountains by Cindy Roché.

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Allium nevii was discovered several years ago on the Sisters Ranger District of the Deschutes National Forest where it grows on open scablands. Photo by Jabus Smith.

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Introduction

The name *Allium*, which comes from the Latin for garlic, was selected by Carl Linnaeus in 1753. Considered at one time to be in the lily family, *Allium* is now a member of the amaryllis family (Amaryllidaceae). This genus is undoubtedly best known for its global culinary contributions. Spicy garlic, leeks, shallots, scallions, chives, and onions of many hues, both sweet and pungent, lend flavor to many a dish. Gardeners value many species of *Allium* for their beauty, with numerous ornamental cultivars derived from the estimated 550 to 700 described species worldwide. Five cultivated *Allium* species have naturalized or been collected as waifs outside cultivation in Oregon: elephant garlic (*A. ameloprasum*), Homer's garlic (*A. nigrum*), chives (*A. schoenoprasum*), three-cornered leek (*A. triquetrum*), and cow garlic (*A. vineale*). There is some question about whether chives are native in the Pacific Northwest, but due to the ubiquity of its cultivation and how readily it self-seeds, it is nearly impossible to determine the original distribution of this species.

To botanists, however, *Allium* species growing in their native habitats are far more fascinating than their cultivated kin. Oregon hosts an impressive diversity in this genus, hosting 44 native taxa in the state's flora, ranking second only to California with 59 taxa. Oregon's *Allium* species are adapted to diverse habitats ranging from coast (*Allium unifolium*) to mountains (*A. brevistylum*), from deserts (*A. nevadense*) to swamps (*A. validum*), while others have soil-restricted habitats (*A. hoffmanii*, a serpentine endemic, and *A. aaseae*, confined in Oregon to lacustrine deposits).

Identification Traits in *Allium*

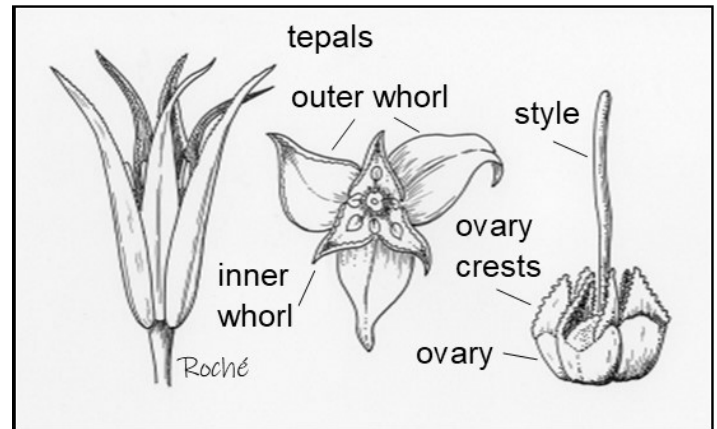
All native species of *Allium* in Oregon are perennial and produce bulbs. Features of the bulb are commonly required for identification, so collections must include below-ground parts. Bulblets (daughter bulbs) may form at the base of the larger bulb. Rhizomatous species may form bulblets, singly or in clusters, along primary or secondary rhizomes. For many species, the shape of cells of the outer bulb coat (reticulum) is diagnostic: it may be net-like, polygonal, herringbone or another shape. Patterns are best viewed on the inner surface of the outer coat, ideally aided by a hand lens or dissecting microscope.

The number of leaves may also be diagnostic. Many species of *Allium* consistently have one or two leaves; species with tall scapes typically have more leaves. Leaves sheath the scape at or near ground level; exceptions are noted in the taxa descriptions.

Inflorescences are always umbels, usually erect, but may be nodding, as in *Allium cernuum* (nodding onion). *Allium* flowers have a perianth with similar petals and sepals, which are called tepals. The tepals are in two whorls of three. Often the outer and inner whorls are indistinguishable, but sometimes whorls differ in size, shape, margin, or orientation at anthesis. In the descriptions below, tepals are assumed to be alike unless indicated otherwise. Tepals fade

and become papery with maturity, or they become rigid and erect. Each flower contains six stamens, the filaments usually broad and fused at the base into a ring attached to the opposing perianth segment. The ovary consists of three lobes that are sometimes crested. It matures into a capsule with three locules. Each locule normally bears two black seeds, but a few species have as many as six seeds per locule. *Allium* flowers are sometimes replaced by bulbils (sometimes spelled bulbels), which produce plantlets asexually.

The native *Allium* species in Oregon do not readily hybridize, even when growing together. Only two hybrids are known among our native alliums: *Allium aaseae* with *A. simillimum* in Idaho and *Allium fimbriatum* var. *fimbriatum* with *Allium fimbriatum* var. *purdyi* in northern California.



Allium floral structure, showing side and top views of the tepals and a side view of the style, three-lobed ovary, and crests. Illustration by Cindy Roché, adapted from line drawings by Jeanne R. Janish in *Vascular Plants of the Pacific Northwest* Volume 1.

Key taxonomists who named species of *Allium* native to Oregon

It seems worthwhile to take a moment here to introduce a few key contributors to the taxonomy of *Allium* in Oregon. By far, the most important figure in Oregon *Allium* taxonomy was Sereno Watson (1826-1892) of Yale University, botanist on the 40th Parallel Expedition (1867-1871), a geological exploration led by Clarence King that passed through Nevada and California. Watson authored seventeen of the species of *Allium* that grow in Oregon, most of them in association with this expedition (Watson 1871, 1879, 1882). Albert Kellogg (1813-1887), founding member of the California Academy of Sciences, published three species of *Allium*. Louis F. Henderson (1853-1942), prominent Oregon botanist, named three *Allium* species. Marion Ownbey (1910-1974) at Washington State University contributed four species names to our flora, one of them (*A. serra*) with his student Dale McNeal, Jr. McNeal also named var. *mirabile* of *A. bolanderi* and was for decades the leading authority on *Allium* in the West. He was the lead author for the *Allium* treatment in the *Flora of North America* (Volume 26, 2002).

A Scenic Tour of Oregon's Onions

Now we are ready for a scenic tour of all the native *Allium* species found in Oregon, presented geographically, beginning with the most geographically widespread and followed by those found in more localized regions. Many of the rare species are at the outer limits of their ranges to the south and east of Oregon. Two species, *A. peninsulare* and *A. fimbriatum* var. *fimbriatum*, have their northernmost ranges in southwest Oregon and their southernmost outposts in northern Baja California.

Species distributions were derived from five sources: the [Consortium of Pacific Northwest Herbaria](#), the [Oregon Flora, Calflora](#), the [USDA PLANTS database](#), and the [Flora of North America](#). A key to all of the *Allium* species mentioned here is available in the Flora of North America treatment of *Allium*.

Allium species found in Oregon

Widespread

Allium acuminatum
Allium amplexans
Allium parvum
Allium validum

West of the Cascades

Allium cernuum
Allium crenulatum
Allium unifolium *

East of the Cascades

Allium campanulatum
Allium macrum
Allium platycaule
Allium punctum
Allium tolmiei

Northeastern Oregon and Columbia River Gorge

Allium brandegeii
Allium brevistylum
Allium dictyon *
Allium douglasii
Allium fibrillum
Allium geyeri var. *geyeri* *
Allium geyeri var. *tenerum* #
Allium madidum
Allium nevii *
Allium robinsonii *
Allium scilloides

Southeastern Oregon

Allium aaseae
Allium anceps
Allium atrorubens var. *atrorubens* #
Allium bisceptrum *
Allium lemmonii
Allium nevadense #
Allium simillimum
Allium textile

Southwestern Oregon

Allium bolanderi var. *bolanderi* *
Allium bolanderi var. *mirabile*
Allium cratericola ^
Allium falcifolium
Allium fimbriatum var. *fimbriatum*
Allium hoffmanii #
Allium hyalinum
Allium membranaceum
Allium obtusum var. *obtusum*
Allium peninsulare *
Allium sanbornii *#
Allium serra
Allium siskiyouense

* [ORBIC list](#) of Rare, Threatened and Endangered Vascular Plant Species of Oregon

special status in [California](#)

^ vulnerable in [NatureServe](#)

Widespread across Oregon

Tapertip Onion *Allium acuminatum* Hook.

William Jackson Hooker (1838) described *A. acuminatum* in *Flora Boreali-Americana*; the publication included habitat and appearance notes from David Douglas, William Tolmie, and Archibald Menzies. The specific epithet refers to the acuminate tepals. Tapertip onion may be the most common native onion in Oregon. Its habitat ranges from dry to seasonally moist meadows, prairies, sagebrush steppe, and open forest sites with sandy or clay soils, up to 2500 m. It flowers May-June.

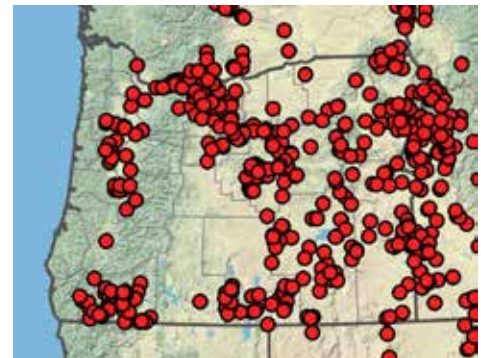
The yellow to brown outer coat of the bulb is reticulated with prominent square cells. Two to three round or slightly channeled leaves grow to 30 cm long. The solitary scape is round, 10-35 cm tall. A loose umbel comprises 10-40 bell-shaped, pink to purple flowers. The outer tepals are longer and wider than the strongly recurved inner tepals. All tepals become ridged and keeled in fruit, losing their color with age. Stamens with yellow anthers are shorter than the tepals. The ovary has three obscure two-lobed crests.



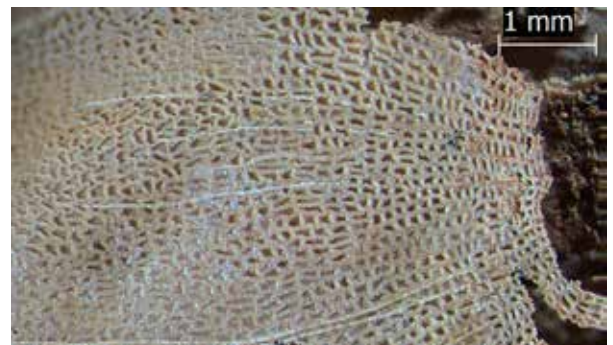
Note the long narrow tapering tips on the tepals. Photo by Paula Brooks.



Tapertip onion (*Allium acuminatum*) in the scablands of the Ochoco Mountains. Photo by Cindy Roché.



Distribution map courtesy of the OregonFlora.



Reticulations of the outer bulb coat form square cells. Photo by Cindy Roché and Robert Korfhage.

Slim-leaf Onion
Allium amplexans Torr.

John Torrey (1857) was the first to describe slim-leaf onion, using a specimen he collected from a hillside in Sonoma, California. Watson (1871) described this taxon as *A. serratum*, which became a synonym. Slim-leaf onion is most common west of the Cascades, but it can also be found in southeastern Oregon. It prefers clay soils and moist seeps, often in grasslands or serpentine outcrops. It grows from sea level to 2500 m, flowering May-July.

Cells of the reddish-brown outer bulb coat are arranged in a striking herringbone pattern. Plants have 2-4, round or slightly channeled leaves, 10-36 cm long. Flowers are borne on a solitary, round scape that can reach 50 cm. White to light pink tepals spread widely at anthesis. Stamens are shorter than the tepals and anthers are either yellow or purple. Six rectangular crests sit prominently atop the ovary. In contrast to other species in which the mature umbel disperses as a unit, the umbel typically shatters after seeds mature, and each of the 10-50 star-shaped flowers falls separately, dispersing the seeds.



Flowers of slim-leaf onion. Photo by Frank Callahan.



Distribution map courtesy of the OregonFlora.



Herringbone patterned bulb coat of slim-leaf onion. Photo by Keir Morse.



Habitat of slim-leaf onion at Blackwell Hill, Jackson County. Photo by Frank Callahan.

Dwarf Onion
Allium parvum Kellogg

Albert Kellogg, Chair of the California Academy of Natural Sciences, named this species (Kellogg 1863). The type specimen was collected in Washoe County, Nevada, by Andrew Veatch, a mining engineer originally from the Midwest who came to California with his father after fighting in the war for Texas independence.

Dwarf onion is widespread south of the Columbia River in California, Idaho, Nevada, Oregon, and Utah. In Oregon it is found in the Blue and Willowa mountains, the Owyhee Uplands, Basin and Range, Klamath Mountains, and Columbia Basin. It grows on talus slopes, scablands, and rocky plateaus from 300-2200 m and flowers April-June.

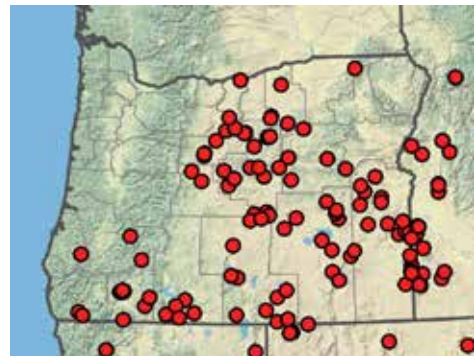


Dwarf onion on top of Table Rocks in Jackson County. Note that the leaves have withered by flowering time. Photo by Frank Callahan.

The grayish-brown outer bulb coat lacks a distinct reticulum. Two narrow, flat, falcate leaves grow up to 15 cm long, typically withering by flowering. The solitary scape is flattened, sometimes winged, and usually short, growing up to 12 cm long, though often not erect. A compact umbel of 5-30 narrowly bell-shaped flowers is typically found at soil level. The white to light pink tepals have a broad purplish-brown midvein, and those in the outer whorl are longer and wider than those in the inner whorl. The stamens are shorter than the tepals; the anthers are a striking purple, and the ovary is obscurely crested.



Dwarf onion (*Allium parvum*) in Deschutes County. The umbel branches are underground at flowering time. Photo by Cindy Roché.



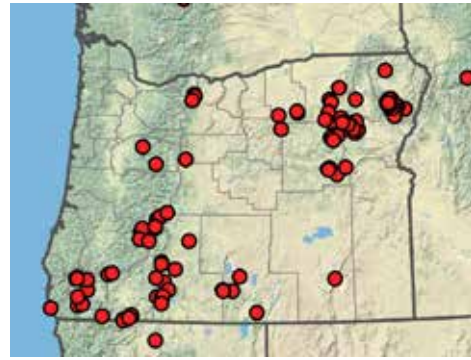
Distribution map courtesy of the OregonFlora.

Pacific Swamp Onion
Allium validum S. Watson

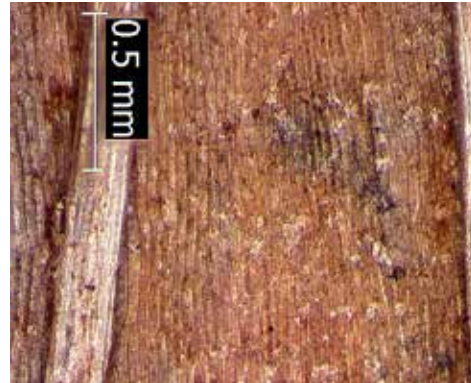
Allium validum was described by Sereno Watson (1871) from a specimen collected by Henry Nicholas Bolander (State Botanist for California, 1864-1871) in high swampy ground on Mt. Dana, Mono Pass, California.

Pacific swamp onion is widespread in Oregon with numerous collections from the Blue Mountains, the High Cascades, and the Calapooya Mountains, at 500-2500 m. The core range of this species is along the Sierra Nevada from northern California to Bakersfield, but it extends to other mountain ranges: the Klamath/Siskiyou, the Cascades in Oregon and Washington, the Rockies in Idaho, and the Rubies in Nevada. This onion flowers from June until September along streambanks and other consistently wet sites, as the common name implies.

Pacific swamp onion is distinct from other Oregon *Allium* species in three ways: 1) bulbs are clustered on thick, iris-like rhizomes (similar to *A. brevistylum*), 2) outer bulb coats appear striped due to the vertically elongated cells, and 3) leaves are more numerous (3-6) and exceptionally long and grass-like, growing up to 80 cm long. The flat, solitary scape is winged and grows up to 70 cm tall with a compact umbel of 15-30 bell-shaped flowers. The lanceolate pink tepals are equal and lack a prominent midrib. The purple, contorted stamens extend beyond the tepals, showing off their yellow or purple anthers. The ovaries lack crests.



Distribution map courtesy of the OregonFlora.



Cells of the outer bulb coat of Pacific swamp onion are long and narrow, giving a striped appearance. Photo by Cindy Roché and Robert Korfhage.



Pacific swamp onion (*Allium validum*) umbel. Photo by Paul Slichter.



Pacific swamp onion habit. Photo by Paul Slichter.

West of the Cascades

Nodding Onion *Allium cernuum* Roth

Nodding onion is a widespread North American species that occurs as far east as the Carolinas; thus, it was the first species native to Oregon known to European botanists. It was named by German botanist Albrecht Wilhelm Roth (Roth 1798). It grows in the northern Blue Mountains, Columbia River, lower Willamette Valley, and northern Coast Range. In Oregon, nodding onion prefers cool, moist sites from sea level to montane (3500 m), and is the latest blooming Oregon onion species, flowering July-October.

Nodding onion is distinctive in several attributes. The outer bulb coat is striate, with cells narrowly elongated in a vertical fashion, a feature shared with *A. validum*. Three to five sharply channeled leaves grow up to 25 cm long. Scapes, either solitary or multiple from a single bulb, become recurved at the apex. Loose umbels contain 8-35 pink or white bell-shaped flowers. The tepals, 4-6 mm long, are shorter than most Oregon species, and the outer whorl is strongly incurved. Stamens and the style are markedly longer than the tepals, giving the flowers a frilly appearance. The ovary is prominently crested with six flat triangular ridges.



Distribution map courtesy of the OregonFlora.



Base of nodding onion. Photo by Paula Brooks.



Nodding onion (*Allium cernuum*) at Neahkanie sea cliff meadow. Note the nodding umbel and long stamens. Photo by Karen Sturgeon.

Olympic or Scalloped Onion
Allium crenulatum Wiegand

Professor J. B. Flett, a botanist from the Tacoma area, collected this species on “loose gravel near the summit of the Olympic Mountains in the vicinity of the headwaters of the Quilcene River.” Karl McCay Wiegand, a botany professor from Cornell University, named the specimen for its scalloped leaves (Wiegand 1899).

Scalloped onion is common in the mountains of western Oregon (Coast Range and west slope of the Cascades) and infrequent in the Willamette Valley. Reports of scalloped onion in the Blue Mountains are misidentifications. Flowering late May-July, scalloped onion grows in clay soils on rocky slopes, serpentine barrens, bald summits, and ridgelines at 600-2500 m.

The bulb of scalloped onion is only partially enclosed by an outer coat, which is brown and lacks obvious reticulation. Leaves are flat and falcate, up to 33 cm long, the edges occasionally minutely scalloped (crenulate). A low-statured species, the flattened scape is 5-15 cm long and becomes winged near the umbel of 10-25 pink, bell-shaped flowers with dark pink midveins on the tepals. The stamens are shorter than the tepals; anthers are yellow or purple. Obscure crests on the ovaries are two-lobed ridges. When the seeds mature, the scape and leaves separate from the bulb.



Bulb of scalloped onion. Note that the scape emerges from one end of the bulb, not the center. Photo by Cindy Roché.



Distribution map courtesy of the OregonFlora.



Scalloped onion (*Allium crenulatum*). Note the scalloped leaf margins. Photo by Paul Slichter.

One-leaf Onion
Allium unifolium Kellogg

This species was described in 1863 by Albert Kellogg from material collected near Oakland, California. One-leaf onion grows in the Coast Range in three western Oregon counties, extending as far south as San Luis Obispo, California. Oregon specimens were collected along the Yamhill River in Yamhill County, from a large population in an open meadow near Willamina in Polk County, and near sea level at Crissey Field State Park in Curry County. Generally preferring wet or moist sites, it sometimes grows on serpentine or ultramafic soils. One-leaf onion grows at sites as high as 1100 m in California, flowering May-June.

The outer coat of one-leaf onion incompletely encloses the solitary bulb and is adorned with a faint rectangular reticulum. Despite its common name, one-leaf onion produces two or three flat, falcate leaves up to 50 cm long. The single, round scape grows 20-80 cm high. A loose umbel



Distribution map courtesy of the OregonFlora.

holds 15-35 bright pink or occasionally white star-shaped flowers. The spreading tepals are unequal, the inner whorl being shorter and narrower than the outer whorl. Stamens are shorter than the tepals. Anthers are yellow or purple and the ovaries lack crests.



One-leaf onion (*Allium unifolium*). Photo by Neal Kramer.

Widespread East of the Cascades

Sierra or Dusky Onion *Allium campanulatum* S. Watson

The type specimen of Sierra onion (Watson 1879) was collected by Henry Nicholas Bolander in the Sierra Nevada on a trip with Mary Ellen Pulsifer Ames (1845-1902), an American botanist who contributed significantly to botanical knowledge in northern California.

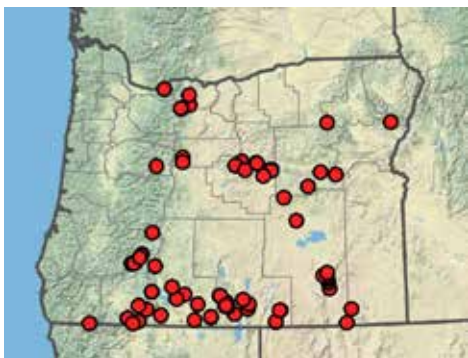
Sierra onion is widespread in the mountains of Oregon and California, with a disjunct population in central Washington. In Oregon it grows on the east slopes of the Cascades, in the northern Great Basin, the Strawberry, Ochoco, Blue and Siskiyou mountains. Sierra onion favors sandy and rocky soils on slopes from 600-2400 m, flowering May-August.

The brown to gray outer bulb coat of Sierra onion is visibly reticulated with squarish cells. The two flat leaves grow up to 40 cm long and are adaxially concave, like the body of a canoe. The round scape, up to 30 cm tall, is topped with a loose umbel of 10-50

ornate flowers. Despite an epithet indicating a bell-shaped flower, the corolla is stellate, and the tepals are rose to purple with dark crescents at the interior base. Stamens are shorter than the tepals and bear purple anthers. The ovary is crested with 6 prominent triangular ridges.



Flowers of Sierra onion. Photo by Tanya Harvey.



Distribution map courtesy of the OregonFlora.

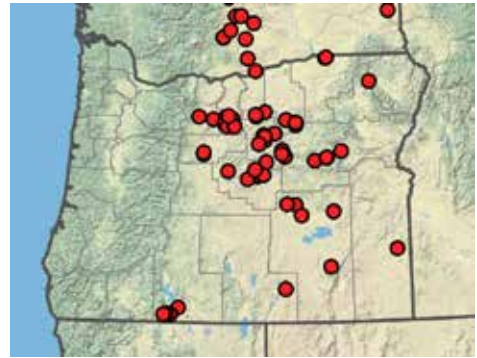


Sierra onion (*Allium campanulatum*). Photo by Tanya Harvey.

Rock Onion
Allium macrum S. Watson

Rock onion was described by Sereno Watson (1879) from a collection made by William Cusick two years earlier in Union County. Rock onion's distribution includes central and southeastern Washington, and northern Oregon with a handful of records south of Upper Klamath Lake and in the Owyhee Uplands. Rock onion flowers April-May in open sites such as barren, gravelly soils, dry meadows, or vernal moist swales and scablands, at 400-1800 m.

The outer bulb coat of rock onion lacks prominent reticulations. Two narrow (2-3 mm wide) leaves are solid, flat, or channeled. The solitary, round scape bears a loose umbel of up to 20 bell-shaped flowers that spread open widely. Tepals are usually white with a red midvein. The stamens are often longer than the tepals and have either yellow or purple anthers and pollen. The ovary is crested with three thick ridges, occasionally tinged with red.



Distribution map courtesy of the OregonFlora.



The ovary is crested with three thick ridges, occasionally with a reddish tinge. Photo by Gerald D. Carr.



Top view of flower, showing the reddish mid-vein of white tepals and purple anthers. When mature, stamens are longer than the tepals. Photo by Gerald D. Carr.



Rock onion (*Allium macrum*) in the Ochoco scablands. Photo by Cindy Roché.

Flatstem Onion
Allium platycaule S. Watson

The type specimen of this species described by Sereno Watson (1879) was collected by J. G. Lemmon in the high valleys of the Sierra Nevada, Placer to Plumas counties, California. Flatstem onion grows in northeastern California, southeastern Oregon, and northwestern Nevada. It is recorded near Jordan Craters and north of Burns in the Malheur National Forest. Look for flatstem onion in Oregon in the north Warner Mountains between Hart Mountain National Antelope Refuge and Drews Reservoir and east of Lakeview to Crane Mountain Viewpoint. This onion grows on rocky or sandy slopes at 1300-2500 m and flowers May-June.

The large bulb of flatstem onion lacks pronounced reticulations on the coat. Two flat, broad, falcate leaves grow 10-30 cm long, usually remaining close to the ground. The strongly flattened scape, winged just below the umbel, may reach 25 cm. The loose umbel holds 30-90 star-shaped flowers with spreading, magenta tepals. The stamens are longer than the tepals and have yellow anthers. The ovaries lack crests.



Distribution map courtesy of the OregonFlora.



Closeup of flowers, showing narrowly lanceolate tepals. Photo by Gerald D. Carr.



Umbel of flatstem onion, showing stellate flowers with strongly exerted stamens. Photo by Gerald D. Carr.



Flatstem onion (*Allium platycaule*). Photo by Paul Slichter.

Punctate or Modoc Onion
Allium punctum L. F. Henderson

Louis Henderson (1930) described *Allium punctum* using a collection he made on May 20, 1927 from a seasonally moist, rocky flat near the Donner and Blitzen River 13 to 16 miles north of Frenchglen. Henderson noted about the bulb coats: "The beautiful punctate middle coats account for the name." The cells are marked with minute indentations as if made by the point of a pin.

In addition to southeastern Oregon, punctate onion grows north as far as Baker City and south to the Sheldon National Wildlife Refuge in Nevada and Modoc County, California. It grows on sandy, rocky, clay, or alkaline soils, at 500-2300 m, flowering April-June.

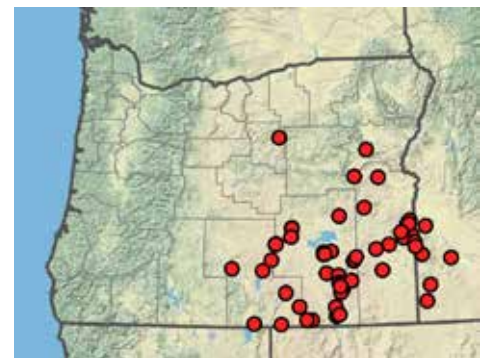
The yellow-brown outer bulb coat is prominently reticulated with narrowly rectangular cells stacked in vertical rows. Two flat, falcate leaves grow up to 18 cm long with the tips often withered and curled by flowering time. By the time seeds mature, both the scape and the leaves have withered. The compact umbel is borne on a short scape (3-10 cm), so the 6-20 narrowly bell-shaped flowers remain near ground level. The tepals are white or light pink with a green or purple midvein. The stamens, shorter than the tepals, have yellow anthers. The ovary is crested by three low, rounded ridges.



Flowers of punctate onion. Photo by Gerald D. Carr.



Punctate onion (*Allium punctum*) habit. Photo by Gerald D. Carr.



Distribution map courtesy of the OregonFlora.

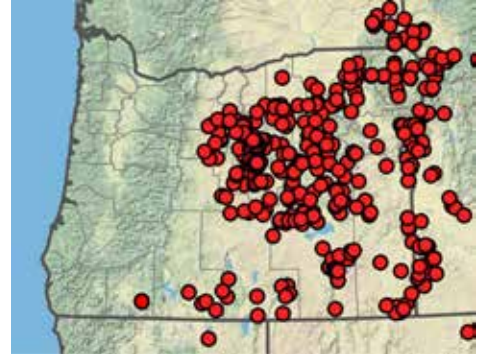


Punctate onion bulb coat. Photo by Gerald D. Carr.

Tolmie's Onion
Allium tolmiei Baker

This species was originally described as a variety of *Allium douglasii*. In 1876 John Gilbert Baker published an engraved plate of this taxon in Curtis's Botanical Magazine with a small note elevating the specimen to a full species that honored William Fraser Tolmie, who had noticed discrepancies when comparing specimens to the description of *A. douglasii*.

Tolmie's onion is one of the most commonly observed and collected species of *Allium* east of the Cascades. It grows in mountains of Oregon and adjacent states (Washington, Idaho, and California), including the Blue Mountains (Oregon and Washington), Wallowa Mountains, the



Distribution map courtesy of the OregonFlora.



Tolmie's onion (*Allium tolmiei*). Photo by Cindy Roché.

Basin and Range, and Owyhee Uplands (Oregon). In Idaho, the range extends north to Lewiston and southeast to the Bear River Range, then south to Lassen County, California. Tolmie's onion flowers April-June in open, seasonally moist sites with rocky or clay soils at 400-2800 m.

The gray-brown outer bulb coat of Tolmie's onion has a fine mesh-like reticulum. Two channeled or semi-round leaves grow 10-40 cm long. The scape and umbel are typically equal to or shorter than the leaves, so flowers are at ground level. The bell or urn-shaped flowers usually have white tepals, the outer whorl of which is broader than the inner and is slightly toothed at the tips. The stamens are shorter than the tepals and bear yellow anthers. They surround a prominently crested ovary, which has six central ridges that are either distinct or fused across lobes.



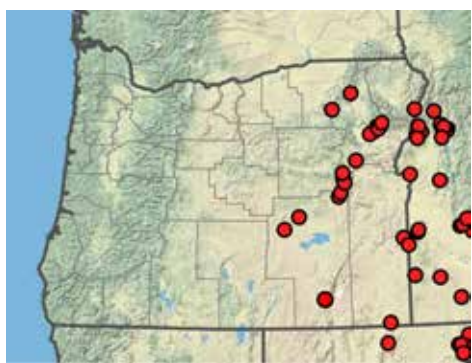
Flower of Tolmie's onion. Photo by Gerald D. Carr.

Northeastern Oregon

Brandege's Onion *Allium brandegeei* S. Watson

Sereno Watson named this species (Watson 1882) in honor of California botanist Townshend Stith Brandege (1843-1925), who collected the type specimen in Colorado in 1881. The range of this species is centered in the Intermountain Region. In Oregon it is found in the vicinity of Hells Canyon, along the North Fork of the Malheur River in the Strawberry Mountains, and in the Blue Mountains. Ownbey's 1946 specimen on Little Bridge Creek is the only collection in the vicinity of Steens Mountain. This onion prefers rocky or sandy soils on seasonally wet sites from 1300-1900 m, flowering April-July.

The outer bulb coat is distinctly reticulate, with roughly spherical to polyhedral cells. The leaves are narrow, either flat or channeled. The inflorescence is a compact umbel of white flowers with emerald to purplish-green mid-ribs. The stamens with bright yellow anthers are shorter than the tepals.



Distribution map courtesy of the OregonFlora.



Flowers of Brandege's onion. Photo by Mark Egger.



Brandege's onion (*Allium brandegeei*). Photo by Mark Egger.

Rocky Mountain Onion
Allium brevistylum S. Watson)

Sereno Watson named this species in 1871 from a specimen collected on “shaded banks of the Provo River, Unita Mtns., Utah 8,000 ft. alt.” The specific epithet refers to the very short style. It is apparently closely related to *A. validum*, whose style and highly visible stamens extend beyond the perianth.

Rocky Mountain onion grows above 1800 m elevation in Oregon and prefers streamside, wet meadows and lakeshore habitats, the same environments as *A. validum*. This is a Rocky Mountain species, extending from central Montana through Idaho to Wyoming to northeast Colorado and Utah. Rare in Oregon, it is known only from Baker County, where it was collected in 2018 between Fish Lake and Red Mountain. It is related to other moisture-loving species such as *Allium gooddingii*, which has a very limited distribution in Arizona and New Mexico, and *Allium plummerae*, which has a very restricted range in southeastern Arizona and adjacent northern Mexico.

The elongate bulb is about 1 cm thick and terminates in an iris-like rhizome similar to that of *A. validum*. The inner bulb coats are white to gray, membranous with striate, long rectangular cells, with persistent parallel fibers that are not reticulate. The two or more leaves, 2-8 mm broad and shorter than the scape, remain green at anthesis. Scapes are 2-6 dm tall and bear umbels of 5-17 flowers. Stamens are about half the length of the tepals, with light yellow anthers. The ovaries are smooth, and the style is never more than 3 mm long.



Flowers of Rocky Mountain onion. Photo by Frank Callahan.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.



Rocky Mountain onion (*Allium brevistylum*). Photo by Frank Callahan.

Blue Mountain Onion
Allium dictuon H. St. John

Allium dictuon was named in 1937 by Harold St. John from a specimen collected by Henry Townsend Darlington in 1913 in the Blue Mountains near Weller Butte, Washington. The specific epithet is derived from the Greek word for “net,” in reference to the reticulate pattern of the bulb coat.

All known populations of Blue Mountain onion grow in the Umatilla National Forest, where it prefers dry, open, rocky soils over basalt. It was first documented in Oregon on 26 June 1998 by Scott Riley above the Wenaha River at 1006 m. To date, about 20 populations have been documented in the Wenaha River canyon and uplands. It flowers June-July.

Blue Mountain onion is a rhizomatous species that produces solitary bulbs, with new bulbs forming along the rhizome. The parent bulb all but disappears by anthesis, leaving roots and bulb coats behind, an uncommon behavior for Oregon *Allium* species. The long, narrow (1-2 mm) leaves grow up to 28 cm long. The round scape grows 20-40 cm tall. A loose umbel holds 10-25 pink to purple, bell-shaped flowers. The outer tepals are longer and wider than the inner tepals. The apices of the tepals are acute to narrowly obtuse, becoming in-rolled so that tips appear strikingly narrow in their outward flare. After pollination the tepals become rigid and keeled. The stamens are shorter than the tepals and have yellow anthers. Ovaries have three tiny crests.



Tepals of Blue Mountain onion flowers taper to slender, in-rolled tips. Photo by Paula Brooks.



Distribution map courtesy of the OregonFlora.



Blue Mountain onion (*Allium dictuon*) rhizomatous habit and habitat. Photo by Paula Brooks.

Douglas Onion
Allium douglasii Hooker

This species was named by William Jackson Hooker using a specimen collected by David Douglas, who initially labeled it as *A. acuminatum*. William Tolmie saw that the collection was distinct, leading to its subsequent description (Hooker 1838).

Douglas onion grows throughout the Blue Mountains of Oregon and Washington, but is rare in the Willowa, Ochoco, and Strawberry ranges. It often occurs in mixed populations of Tolmie's onion in Grant County. Douglas onion has also been collected infrequently in the High Lava Plains and on ridgetops above the Columbia River. It grows



Umbel of Douglas onion. Photo by Robert Carr.

in grasslands over loess soils on dry basalt slopes ranging from 400-1400 m, flowering May-July.

The light brown outer bulb coat lacks an obvious reticulum. Two flat, falcate leaves grow 9-29 cm long. Round scapes typically equal the leaves in height. The compact umbel holds 25-50 pinkish-purple, stellate flowers. The lanceolate tepals have prominent green midribs and enclose blue-gray anthers that are equal to or slightly longer than the tepals. The ovaries have six distinct crests.



Douglas onion (*Allium douglasii*). Photo by Robert Carr.



Closeup of the flower showing the six distinct crests on the ovary. Photo by Robert Carr.



Distribution map courtesy of the OregonFlora.

Fringed Onion
Allium fibrillum M. E. Jones ex Abrams

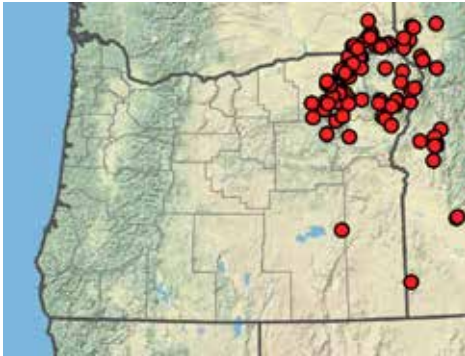
This species name was published by Marcus E. Jones (1902) using a specimen from Cuddy Mountain, a peak about 24 km west of Council, Idaho. The epithet *fibrillum* refers to the small, slender leaves. It is sometimes called Cuddy Mountain onion (Abrams 1923).

Fringed onion is common throughout the Umatilla National Forest in both Oregon and Washington and in the Hells Canyon area of Oregon and Idaho. Fringed onion grows in open, rocky sites and mixed conifer-grassland communities from 800 to 2600 m. It prefers sites that are seasonally moist, and flowers in May and June.

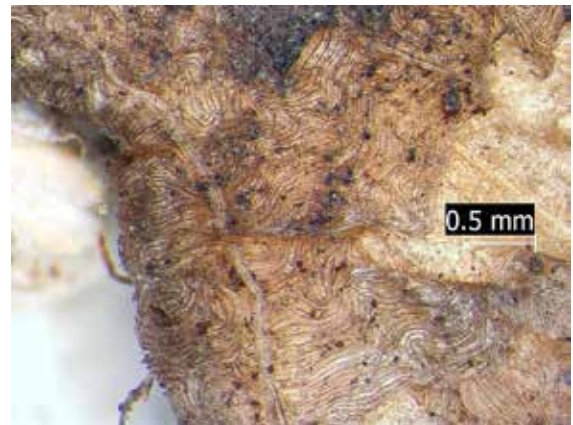
Fringed onion has a globose bulb with finely contorted reticulations on the outer coat, which may enclose several bulblets. Two narrowly channeled, falcate leaves grow up to 24 cm long. The slightly flattened scape is shorter than the leaves, up to 15 cm tall. The compact umbel bears 10-20 white campanulate flowers. The tepals are striped with a green or pink midrib. Anthers are bright yellow. Ovaries either lack crests or have three low ones.



Flowers of fringed onion. Photo by Paul Slichter.



Distribution map courtesy of the OregonFlora.



Finely contorted reticulations are characteristic of the bulb coat of fringed onion. Photo by Cindy Roché.



Fringed onion (*Allium fibrillum*). Photo by Paul Slichter.

Geyer's Onion
A. geyeri S. Watson var. *geyeri*

Bulbil Onion
A. geyeri Watson var. *tenerum* M.E. Jones

Sereno Watson (1879) named this species in honor of the German botanist Karl Andreas Geyer. M.E. Jones (1902) described a second variety, *A. geyeri* var. *tenerum* based upon bulbils in the inflorescence.

In addition to the Rocky Mountain states, Geyer's onion occurs in southeastern British Columbia, central and eastern Washington, and the Great Plains. It extends into northeastern Oregon along the Imnaha River in Hells Canyon. Bulbil onion grows throughout the Blue Mountains, the Owyhee Uplands, northern Nevada, and the Rocky Mountains. Geyer's onion flowers in April and May. Geyer's onion has been collected only at lower elevations (less than 400 m), bulbil onion from 300-2300 m.

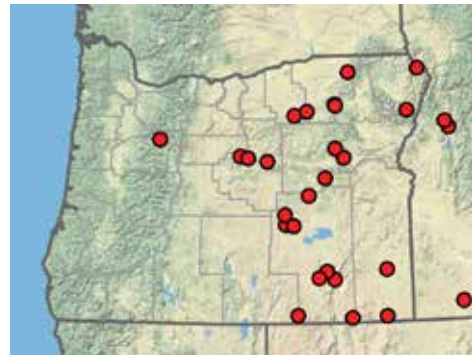
The outer bulb coat of both varieties is a coarse meshed reticulum. The numerous (3-5) leaves are straight, flat or channeled, and sheathe the scape up to a quarter of its length. Flowers are urn- or bell-shaped, with erect to spreading, nearly equal tepals in pink to white. Stamens are shorter than the tepals, anthers yellow, and the ovaries are inconspicuously crested. The main distinction between the varieties is that flowers of var. *tenerum* are replaced by bulbils.



Geyer's onion (*Allium geyeri* var. *geyeri*). Photo by Paula Brooks.



Coarsely meshed reticulum of the outer bulb coat of Geyer's onion. Photo by Paula Brooks.



Distribution map courtesy of the OregonFlora.



Umbel of Geyer's onion flowers. Photo by Paula Brooks.



Bulbils in the umbel of bulbil onion. Photo by Paul Slichter.

Mountain Swamp Onion
Allium madidum S. Watson

Sereno Watson (1879) described this species from a collection made in Union County by the self-taught botanist William C. Cusick. The specific epithet, meaning moist, soaked, or sodden, refers to its habitat preference (wet meadows). Mountain swamp onion is common in the Blue, Ochoco, and Wallowa mountains, as well as the High Lava Plains of central Oregon. It grows at 1000-2000 m, flowering May-June.

The bulbs are diagnostic with extremely contorted reticulations. Two long, narrow leaves reach up to 25 cm long, and the round scape is sometimes ridged. The above ground parts persist until after seed maturity. The umbel holds 10-20 bell-shaped flowers with white tepals with bright green or pinkish midveins. Stamens are shorter than the tepals and anthers are white or yellow. Ovaries bear three obscure crests.



Umbel of swamp onion, showing the green mid-veins and stamens shorter than the tepals. Photo by Gerald D. Carr.



Closeup of flower, showing that the ovary crests are obscure. Photo by Gerald D. Carr.



Mountain swamp onion (*Allium madidum*). Photo by Paul Slichter.



Distribution map courtesy of the OregonFlora.



Bulb coat reticulation of mountain swamp onion. Photo by Gerald D. Carr.

Columbia Gorge

Nevius' Onion *Allium nevii* S. Watson

Sereno Watson (1879) named this species from a collection made near the Hood River in 1873 by Reverend Reuben Nevius, a circuit-riding Episcopalian missionary. A synonym for this species is *Allium douglasii* var. *nevii*.

Nevius' onion grows in the eastern Cascade foothills from Jefferson County, Oregon, to the Wenatchee Mountains in Kittitas County, Washington. Preferred habitats are wet swales and meadows, stream banks, margins of vernal pools, and seasonally moist scablands with gravely clay soils at 30-1200 m. It flowers April-June.

The outer bulb coat is moderately reticulated, with cells that are either squarish or vertically oblong. Sickie-shaped leaves are flat to slightly channeled. Up to three round



Closeup of star-shaped flower, showing stamens with blue anthers (left). Each ovary chamber bears two prominent crests (right). Photos by Gerald D. Carr.

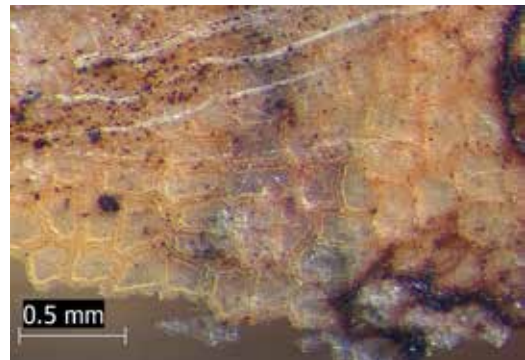


Nevius' onion (*Allium nevii*). Photo by Paul Slichter.

or slightly winged scapes grow to 25 cm. The leaves and scapes, roughly equal in height, persist as seeds mature. The compact umbel has 10-30 violet, star-shaped flowers. Stamens with blue anthers are slightly longer than the tepals. Each ovary chamber bears two prominent crests.



Distribution map courtesy of the OregonFlora.

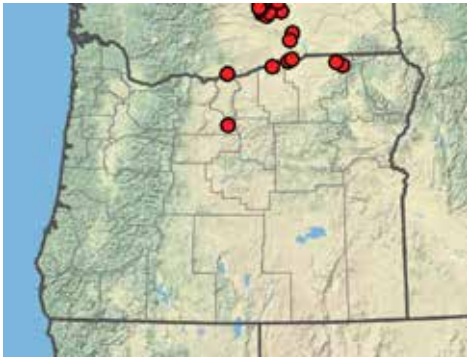


Squarish reticulations of the outer bulb coat of Nevius' onion. Photo by Cindy Roché.

Robinson's Onion
Allium robinsonii L. F. Henderson

Louis F. Henderson collected the type specimen at the confluence of the John Day and Columbia rivers in 1925. He named the onion (Henderson 1930) after American botanist Benjamin Lincoln Robinson, who began his career as Sereno Watson's assistant and became curator of the Gray Herbarium at Harvard when Watson died in 1892 (Fernald 1936).

Robinson's onion is a rare species that grows on sand and gravel deposits along the lower Columbia River at 50-800 m and flowers April-May. It is found along the Columbia River, between Kennewick and Wenatchee, Washington and at the mouths of the John Day, Umatilla, Walla Walla, and Snake rivers.



Distribution map courtesy of the OregonFlora.



Stamens are shorter than the tepals in the bell-shaped flowers of Robinson's onion (left). Closeup side view of the ovary crests in Robinson's onion (right). Photos by Gerald D. Carr.

Robinson's onion has a short (up to 7 cm) reddish scape that grows from a gray-brown bulb that lacks patterning on the outer coat. Two narrow, sickle-shaped leaves grow 5-18 cm long and detach with the scape at seed maturity. The umbel is erect and compact with 5-12 bell-shaped flowers. Flowers are white or light pink with a red midvein. The stamens, shorter than the tepals, bear purple anthers with gray to yellow pollen. Each ovary chamber has one or two distinct crests.



Robinson's onion (*Allium robinsonii*). Photo by Paul Slichter.

Fragile Onion
Allium scilloides Douglas ex Watson

David Douglas collected this onion at “Priest’s Rapids” on the Columbia River and gave it the name *A. scilloides*, which was published by Sereno Watson (1879). The specific epithet denotes a similarity to the genus *Scilla* (from the Greek and Latin for sea onion).

Fragile onion is rare in Oregon, occurring in Wasco and Morrow counties along the Columbia River. View the specimens [here](#). It also grows in Washington, including the Klickitat Wildlife Area and as far north as Douglas County. It is found in depressions in grasslands and on basalt tablelands and barren gravelly slopes at 300-1300 m, flowering March-April.

The outer bulb coat is reddish-brown and lacks an obvious reticulum. The two flat, falcate leaves are finely toothed on the margins and reminiscent of *A. anceps* and *A. punctum*. The leaves often grow close to the ground and curl in towards each other distally as they wilt in maturity.

The scape is strongly flattened and winged. The inflorescence is a few-flowered, compact umbel of 5-12 bell-shaped blooms with white or pink tepals marked by a dark pink midvein. The stamens are shorter than the tepals. Anthers are purple with white pollen. Ovaries typically lack crests.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.



Fragile onion (*Allium scilloides*); note the finely toothed leaf margin. Photo by Frank Callahan on Columbia River basalt barrens, Wasco County.

Southeastern Oregon

Aase's Onion/Southern Idaho Onion *Allium aaseae* Ownbey

Ownbey and Ward collected the type specimen on 9 April 1947 on the "low hills directly back of Collister schoolhouse just n.w. of Boise, Ada County, Idaho." The name honors Hannah Caroline Aase, Ownbey's colleague at Washington State College (Ownbey 1950). Aase's onion has been described as an Idaho endemic and is currently listed as globally imperiled by [NatureServe](#). The first record in Oregon was found in 2018 in Malheur County on the sandy hills south of the big horseshoe bend in the Snake River west of Weiser, Idaho ([source](#)). The habitat is old sand beds laid down from turbulence currents in ancient Lake Idaho, just above the zones of duripan soils.

This species typically grows in open sites on hilltops and slopes with sandy or rocky soils from 800-1100 m, and flowers in March and April. Aase's onion spreads by bulbs that grow at intervals along a primary rhizome. The outer bulb coat lacks obvious reticulations. Two long, narrow, channeled leaves attach to the slightly flattened scape below

ground level and detach with the scape upon maturity of the seeds. Compact umbels are born just above soil level and display up to 25 bright pink bell-shaped flowers. The tepals are 6-9 mm long, with a dark midrib, and become white and papery after pollination. The stamens are shorter than the tepals. Anthers are bright yellow. Ovaries lack crests.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.



Aase's onion habitat. Photo by Barbara Ertter.



Aase's onion. Photo by Barbara Ertter.



Aase's onion (*Allium aaseae*). Photo by Frank Callahan.

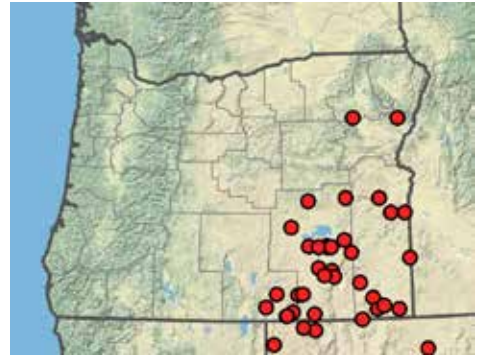


Aase's onion. Photo by Barbara Ertter.

Two-edged Onion
Allium anceps Kellogg

Albert Kellogg (1863) named this onion using a type specimen collected by Andrew A. Veatch at Washoe, Nevada. Two-edged onion grows in southeastern Oregon, southwestern Idaho and northwestern California. It has been collected on top of Hart and Steens mountains and along Lake Owyhee. It flowers in May and June on barren sites on heavy clay or rocky soils in the sagebrush steppe from 700 to 1900 meters.

Two-edged onion resembles Aase's onion in several ways. Two leaves extend beyond a compact cluster of pink flowers with bright yellow anthers, then clasp the flattened scape below the soil line, all of which detach at maturity. The outer bulb coat of two-edged onion is obviously reticulate, and the leaves are broader and more falcate than those of Aase's onion, becoming curled and withered with age. Also, the scape is more clearly flattened and winged. The tepals of two-edged onion are somewhat longer and narrower than those of Aase's onion, and the flowers are stellate rather than campanulate. The ovaries bear 6 small, rounded crests.



Distribution map courtesy of the OregonFlora.



Flowers of two-edged onion. Photo by John Game.



Two-edged onion (*Allium anceps*). Photo by John Game.

Dark Red Onion or Great Basin Onion
Allium atrorubens var. *atorrubens* S. Watson

Sereno Watson found this species on the 40th Parallel Expedition in the dry foothills from the West Humboldt Range to the Havallah Mountains in Nevada. He noted that the “Pah-Utes” name for this plant was “Ko-si-urge” (Watson 1871). This southwestern (Arizona, California, Nevada, New Mexico, Utah) species grows in rocky or sandy soil of sagebrush scrub, northern juniper woodland, and pinyon-juniper woodland communities. It was discovered in the Trout Creek and Pueblo Mountains of southeastern Oregon, growing in association with budsage (*Artemisia spinescens*) and King's desertgrass (*Blepharidachne kingii*) on shallow rocky soils.

The outer bulb coat is brown and lacks reticulation. The single leaf is cylindric and tightly coiled when fresh. The solitary scape is 5-7 cm tall with a compact umbel of 5-50 bell-shaped flowers. Tepals are pale pink to deep



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.

reddish purple, rarely white. The inner tepals are longer and narrower than the outer tepals. Stamens are shorter than the tepals and anthers are purple. The ovaries are crested with six prominent triangles.



Dark red onion (*Allium atrorubens* var. *atorrubens*). Photo by Steve Matson.

Twincrest Onion
Allium bisceptrum S. Watson

Sereno Watson published this species in the 40th Parallel Expedition publication in 1871, using a type specimen he collected in 1868 in the Trinity Mountains, Pershing County, Nevada. Watson noted that this was the same species incorrectly identified as *A. falcifolium* in the Whipple Pacific Railroad Survey (July 1853-March 1854) on the 35th Parallel led by Lt. Amiel Weeks Whipple and collected by expedition botanist John M. Bigelow.

Twincrest onion grows in mesic sites in high elevation montane meadows and aspen groves at 1100-2000 m. It is widespread in the Great Basin of Nevada and California and also found in Idaho, New Mexico, Utah and Oregon. In Oregon it grows along the Little Owyhee River, at Goose Lake, east of Klamath Lake, and in the Cascades of southern Jackson County. It flowers June-July.



Flowers of twincrest onion. Photo by Ron Wolf.

The most striking features of twincrest onion are the height (40 cm) and round shape of the scape. Up to five broadly channeled leaves clasp the stem near ground level. Underground, the bulb produces clusters of bulblets either at the base or on long slender rhizomes, which are typically lost when collecting. The flowers range from light pink to white. Stamens are shorter than the tepals, with purple anthers. The ovaries are conspicuously crested.



Distribution map courtesy of the OregonFlora.



Twincrest onion (*Allium bisceptrum*). Photo by Ron Wolf.

Lemmon's Onion
Allium lemmonii S. Watson

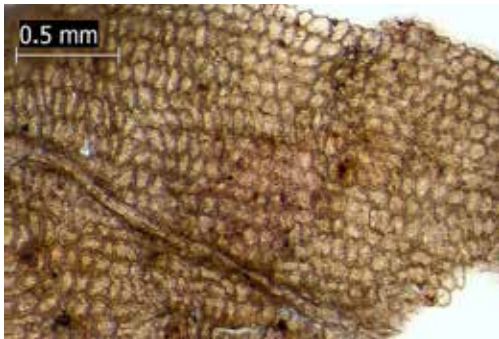
Sereno Watson (1879) named this species from a collection made in the Sierra Nevada in California by John Gill Lemmon in 1874. The *Flora of North America* describes the habitat as "drying, clay soils." The *Flora of Oregon* adds: "...often derived from volcanic ash, typically barren, open sites" at 600-2000 m. It grows in Oregon, Idaho, California, Nevada and Utah. All Oregon populations are in the eastern part, mostly in the Owyhee watershed, but also in the Blue and Warner mountains and on Steens Mountain. Habitat for collections from the Owyhee watershed describe sandy flats and playas, often in the presence of *Juncus* and *Eleocharis*. It flowers April-June.

Showy clusters of light pink to lilac-colored flowers sit atop solitary, flattened scapes that are up to 20 cm tall. As the season progresses, the two flat, sickle-shaped leaves begin to wither from the tips. Leaves are 8-30 cm long and attach to the scape at ground level. Leaves and scape dehisce

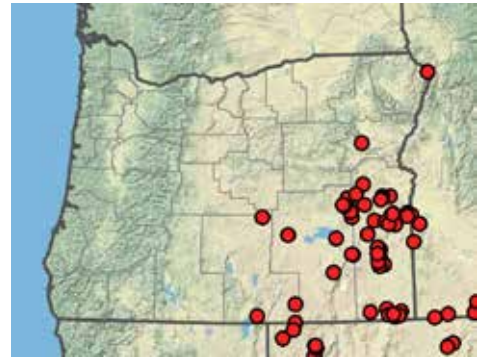


Flowers of Lemmon's onion. Photo by Gerald D. Carr.

together from the bulbs. Bulbs are ovoid, 1-5 or more with the outer coats enclosing one or more bulbs. Bulb coats are membranous with rectangular cells in more or less vertical rows.



The membranous bulb coats of Lemmon's onion have rectangular cells in linear rows. Photo by Cindy Roché.



Distribution map courtesy of the OregonFlora.



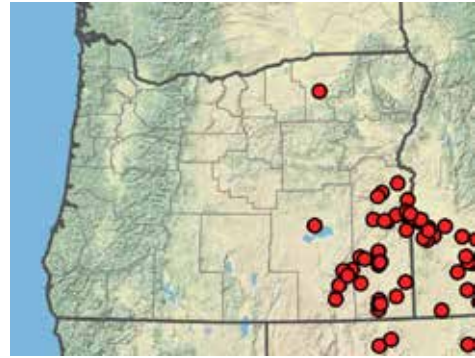
Lemmon's onion (*Allium lemmonii*). Photo by Gerald D. Carr.

Nevada Onion
Allium nevadense S. Watson

Sereno Watson collected the two syntypes for this taxon on the 40th Parallel Expedition (Trinity Mountains in May and East Humboldt Range in July 1868) and published the name in 1871.

Nevada onion grows in Oregon, Idaho, California, Nevada, Utah, Wyoming, and New Mexico. In Oregon, Nevada onion grows east of Steens Mountain, including Mickey Basin and extending north to the Malheur River and east to the Snake River Plateau. Nevada onion also occurs along the Humboldt River in northern Nevada and along the drainages of the Virgin and Colorado rivers in southern Nevada and Utah, respectively. This onion grows in rocky soils of the shrub steppe, sandy soils near the Alvord Desert, and in saline sites near Mickey Hot Springs, at 800-1600 m, and flowers May-June.

Nevada onion is a short, erect species characterized by a single leaf and a bulb coat with strongly contorted reticulations. The single leaf is narrow and long, round in cross-section, sometimes twisting like a corkscrew (indicative of its alternative common name, pigtail onion). The umbel is elongate and erect, bearing 5-25 light pink to white stellate flowers with dark pink midveins. The light color of the tepals dramatically offset the dark purple anthers and pedicels that turn dark red during anthesis. Ovary with six prominent triangular crests that have entire, notched, or shallowly toothed margins.



Distribution map courtesy of the OregonFlora.



Strongly contorted reticulations of the outer bulb coat. Photo by Gerald D. Carr.



Closeup of flower, showing prominent triangular ovary crests. Photo by Gerald D. Carr.



Nevada onion (*Allium nevadense*). Photo by Kareen Sturgeon.

Simil Onion
Allium simillimum L. F. Henderson

Louis F. Henderson published this species from on a collection he made on 2 July 1895 on open, moist loose soil among rocks at 2400 m on Sesesh Peak, Idaho (Henderson 1900).

Simil onion is native to the mountains of central Idaho (Sawtooth, Salmon River, and Lemhi ranges), but it extends into the Owyhee Mountains of southwestern Idaho and to Ravalli County, Montana. It has been found in three locations in Oregon: the Zumwalt Prairie, near Fish Lake in Baker County, and near the summit of Mahogany Mountain in Malheur County. In Baker County it grows on decomposed basalt and in Malheur County it was found on decomposed rhyolite, growing in association with *Cercocarpus ledifolius*. Simil onion grows at high elevations (1800-3400 m) in sandy soils, and flowers from April to June.

The outer bulb coat of simil onion often lacks reticulations, which are elongated and contorted when observable. The short scape grows only 1-5 cm high. The flattened,

broadly channeled leaves often far exceed the scape, reaching up to 22 cm in length. The leaves and scape break off together at soil level when seeds mature. The narrow bell-shaped flowers are born in compact umbels that often rest on the soil surface. White tepals with dark reddish-green midveins and slightly serrate margins enclose white to grayish-purple anthers and ovaries with three low, rounded crests.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.



Simil onion. Photo by Barbara Ertter.



Simil onion. Photo by Barbara Ertter.



Simil onion (*Allium simillimum*) showing capsules with seeds. Note leaves of *Cercocarpus ledifolius* in the duff. Photo by Frank Callahan.



Simil onion. Photo by Barbara Ertter.

Textile Onion
Allium textile A. Nelson & J. F. Macbr.

Aven Nelson and James Macbride (1913) described textile onion to distinguish their 1912 collections at Shoshone Falls, Idaho, from *A. reticulatum*. They commented that its distribution “may extend quite into eastern Oregon.”

Textile onion is a widespread species of the Rocky Mountains and Great Plains south to the Colorado-New Mexico border. In Oregon, there are records from Harney, Lake, Malheur, Wallowa, and Wheeler counties, including the north faces of Glass Buttes, Double Mountain, Joseph Canyon, Flock Mountain, Mahogany Mountain, and the Malheur Field Station. *Allium textile* grows in open sites in dry grasslands and hill tops, and flowers May to June.

The bulbs are normally clustered and exhibit fibrous reticulate bulb coats. Two leaves clasp a solitary, round scape. The erect, compact umbels are born on scapes up to 40 cm tall, and hold 15-30 white, urn-shaped flowers with reddish midveins. The outer whorl of tepals is broader than the inner, becoming faintly toothed at the apex, and encloses the capsule at maturity. Stamens are shorter than the tepals. Ovaries bear six pronounced crests that are sometimes fused across the septa (rather than being distinct on each chamber of the capsule).



Flowers of textile onion. Photo by Frank Callahan.



Textile onion (*Allium textile*). Photo by Frank Callahan.



Fibrous bulb coat of textile onion. Photo by Frank Callahan.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.

Southwestern Oregon

Bolander's Onion

Allium bolanderi S. Watson var. *bolanderi*

Slender-stemmed Onion

Allium bolanderi var. *mirabile* (L.F. Hend.) McNeal

Sereno Watson (1879) named this species for its first collector, California botanist Henry Bolander, who found it in Humboldt County, California. Louis Henderson (1930) described *A. mirabile* from a collection he made near Eight Dollar Mountain in Josephine County; this species was changed to a variety of *A. bolanderi* by Dale McNeal (1992).

In Oregon, variety *bolanderi* is found only in Josephine County, but is widely distributed in the Klamath Mountains of northern California. In contrast, variety *mirabile* occurs throughout the Illinois, Rogue, and South Umpqua drainages. The two varieties appear to occupy similar habitats, growing mainly on clay soils, often derived from serpentine, from 50 to 1000 m. Both varieties begin blooming in May: variety *bolanderi* persists into August, whereas variety *mirabile* finishes in July.



Flowers of Bolander's onion. Photo by Kareen Sturgeon.



Var. *bolanderi*. Distribution map courtesy of the OregonFlora.



Var. *mirabile*. Distribution map courtesy of the OregonFlora.

The bulb is the most reliable way of distinguishing between the two varieties. Variety *bolanderi* has an ovoid bulb with a coat that has a V-patterned reticulum, which looks like a serrated knife blade when it tears. In contrast the bulb of variety *mirabile* is oblong and tuber-like with a coat and wavy reticulum that tears irregularly. Both varieties produce tall scapes (up to 35 cm) that exceed the 2 or 3 channeled leaves (up to 30 cm). Tepals of both species may be purple or white. Tepals of var. *mirabile* are slightly longer and narrower than those of var. *bolanderi*.



Bolander's onion (*Allium bolanderi* var. *bolanderi*) with Jeffrey pine at Eight Dollar Mountain, Josephine County. Photo by Kareen Sturgeon.

Cascade Onion
Allium cratericola Eastw.

Alice Eastwood (1934) named this onion for Mt. Saint Helena crater, California, where she first collected it in 1918. The epithet denotes the affinity the species has for craters.

In 2019 and 2020, two populations of this California endemic were discovered in the Cascade-Siskiyou National Monument, Jackson County ([source](#)). At both sites, this onion appeared restricted to sterile, open volcanic soils, associated with *A. siskiyouense*. It flowers in May. In California, Cascade onion also prefers volcanic soils, often serpentine influenced, at 300-1800 m. It is currently listed as “vulnerable” by [NatureServe](#).

The reticulum of the outer bulb coat, when present, is quadrangular and restricted to two to three rows of cells. One or two flat or broadly channeled leaves grow up to 30 cm long, often remaining lower than the inflorescence. The solitary round scape grows 2-12 cm long and is deciduous

with the leaves after seeds mature. The pinkish-purple bell-shaped flowers have dark green midveins and are held in compact umbels of 20-30 flowers. Bright yellow anthers top the stamens that are shorter than the tepals. The ovaries are minutely crested.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.



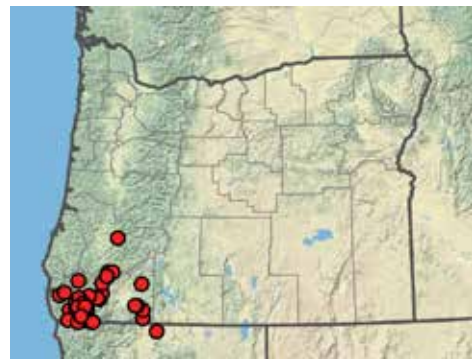
Cascade onion (*Allium cratericola*) in the Cascade-Siskiyou National Monument. Photo by Frank Callahan.

Sickle-leaf Onion
Allium falcifolium Hook. & Arn.

Sickle-leaf onion was first described in 1840 in *The Botany of Captain Beechey's Voyage*, an account of an Arctic expedition undertaken from 1825-1829. Expedition members included William Jackson Hooker and George Arnott. The description for this species notes that the material was collected by David Douglas in California, "probably at no great distance from the coast."

Oregon records of sickle-leaf onion are from Josephine and Jackson counties: the Illinois River watershed and the Cascade-Siskiyou National Monument. In California, this species is found in the Klamath Mountains and the Coast Ranges. Sickle-leaf onion flowers April-June and commonly grows on heavy clay or rocky serpentine soils in open sites and grassland communities, from 200 to 1700 m elevation.

The outer bulb coat of sickle-leaf onion lacks a pronounced reticulum. True to its name, the two leaves are shaped like a scythe and grow up to 21 cm long. As seeds mature, the scape and leaves detach from the bulb. The flowers are cone or bell-shaped, reddish purple or white, with long acuminate tips. Anthers may be purple or yellow. Stamens extend only to the base of the flare of the tepals. Each ovary lobe bears a low, rounded crest.



Distribution map courtesy of the OregonFlora.



Side view of cone or bell-shaped flower of sickle-leaf onion (left). Tepals have long acuminate tips (right). Photos by Gerald D. Carr.



Sickle-leaf onion (*Allium falcifolium*). Photo by Kareen Sturgeon.

Fringed Onion
Allium fimbriatum var. *fimbriatum* S. Watson

Fringed onion is another species named by Sereno Watson (1879); the type specimen was collected by Dr. E. Palmer on the Mohave River in 1876. However, Watson's type specimen now represents *A. fimbriatum* var. *mohavense* Jepson. The distribution of fringed onion centers in California, extending south into Baja California and north into Oregon. Two populations in Jackson County, discovered in 2018, are near Gold Hill and at Chocolate Falls near the state line ([source](#)). Near Gold Hill it grows on ultramafic soils in shallow, open rocky sites, associated with *Fritillaria purdyi*, and flowers in May. At Chocolate Falls it grows on open scree, ranging from gravels to heavy volcanic clays.

The reddish-brown outer bulb coat lacks reticulation except for sometimes two to three rows near the base. The single round leaf withers from the tip by flowering time. The scape bears a compact umbel of 6 to 75 urn- to

bell-shaped flowers with dark reddish-purple to pale lavender or white tepals. Stamens are shorter than the tepals; anthers are yellow. Ovaries are crested with six prominent triangular ridges.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.



Fringed onion (*Allium fimbriatum* var. *fimbriatum*) on serpentine soil. Photo by Frank Callahan.

Beegum Onion
Allium hoffmanii Ownbey ex Traub

Marion Ownbey named this onion in honor of California botanist and school principal Freed Hoffman, who collected the type specimen July 14, 1949 on serpentine at a small lake on the north side of Red Lassic Mountain, Trinity County, California. Paul Hamilton Traub (1972) wrote an expanded description for the species. The common name likely is derived from Beegum, California, located northwest of Red Bluff.

Previously known only in the Coast Range of northern California, the species was discovered in 2019 near Serpentine Point in Josephine County, Oregon. In California this onion grows on serpentine-derived clay soils between 1100 and 1800 m in elevation; it flowers June-July.

Bulbs are mostly solitary, with the outer coats membranous, mostly without reticulation. Leaves are deciduous with the scape at seed maturity. The solitary, round scape is 5-10 cm tall. Blades are solid, flat or broadly channeled and somewhat falcate, 4-8 mm wide and up to 22 cm long with

entire margins. The compact umbel is erect, with 10-40 flowers. Tepals of the pink to purplish flowers have a prominent greenish midvein. The stamens are exerted, with purple anthers. The ovary crests are obscure, with rounded entire margins. Beegum onion closely resembles Cascade onion, differing in having only one leaf per scape, stamens longer than the tepals, and papillose filaments on the stamens.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.



Beegum onion (*Allium hoffmanii*) in Josephine County. Photo by Frank Callahan.

Glassy Onion
Allium hyalinum Curran

Mary Katharine Curran (1885) described *A. hyalinum* from a specimen she collected in May 1884 along a stream on McKewen's Ranch, El Dorado County. Dr. Curran became curator of the herbarium of the California Academy of Sciences after Albert Kellogg retired in 1883. She married fellow botanist Townshend Stith Brandegee in 1889. This species grows in wet habitats, including low, moist flats northeast of Redding, the northern-most point of its range in California.

On 20 June 1975, glassy onion was found in open scree to wet meadow zones near Tanner Mountain in Josephine County, just north of the California border. Unfortunately, the specimen deposited in the herbarium at Southern Oregon University has been lost. In California it is known



Flowers of glassy onion. Photo by Neal Kramer.



Glassy onion (*Allium hyalinum*). Photo by Neal Kramer.

from the Sierra Nevada foothills and inner south Coast Range, where it grows on heavy, clay soils on shaded slopes.

Outer bulb coats are prominently reticulate with cells arranged in roughly vertical rows, forming an irregular herringbone or contorted V-shaped pattern. Two to three leaves, almost round to somewhat channeled, are up to 40 cm long. The scape is solitary and erect, up to 45 cm. The umbel of 5 to 25 flowers shatters when seeds mature, each star-shaped flower falling off with its pedicel. White to pink tepals spread widely at flowering, becoming hyaline over the capsule. Stamens are shorter than the tepals, and ovaries lack crests.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.

Papery Onion
Allium membranaceum Ownbey ex Traub

Papery onion was also first collected and named by Ownbey and later given an expanded description by Traub (1972). It is closely related to *A. campanulatum*. This species was formerly considered a northern California endemic, primarily in the foothills of the Sierra Nevada, where it grew on wooded slopes at 200-1400 m. It also grows in the Klamath River canyon south of Hornbrook in northern Siskiyou County, California. It was discovered in Harris Gulch near Gold Hill in Jackson County, Oregon growing on a north-facing slope as an understory plant in a Douglas-fir forest south of the Rogue River. View the specimen on the CPNWH site (<https://www.pnwherbaria.org>). Papery onion flowers May-June.

The brown, membranous outer bulb coat bears a faint reticulum of squarish cells. Two to three leaves clasp a solitary, round scape. The scape and leaves can be up to 40 cm long, and persist when seeds mature. A loose umbel holds



Distribution map courtesy of the OregonFlora..

15-35 star-shaped flowers. The spreading tepals are usually pink with a dark pink midvein. Stamens are shorter than the tepals and the anthers are yellow. The ovaries have six prominent triangular crests.



Papery onion (*Allium membranaceum*) in Harris Gulch, Jackson County. Photo by Frank Callahan.

Red Sierra Onion
Allium obtusum Lemmon var. *obtusum*

This species was published by John G. Lemmon (1890) as being “rare in the sub-alpine region of Gold Lake, Plumas County.” Formerly known only from the Sierra Nevada (California and Nevada), it was found in Oregon in June 1975 (Baldwin *et al.* 2012, p. 1294). Two small populations grow in Jackson County: south of Observation Peak near Tamarack Meadows and northwest of Mt. Ashland on a granitic substrate. View specimen [here](#).

The brown outer bulb coat is cellular-reticulate, with polygonal or roughly rectangular cells. The one or two leaves are flat or broadly channeled, mostly falcate, withering from the tip by flowering time. Leaves are usually deciduous with the scape. Flowers are bell-shaped in a compact erect umbel of up to 65 flowers. Tepals are white or pink with dark purplish midveins. Stamens are shorter than the tepals; anthers are yellow or purple. Crests on the ovary may be obscure or prominent.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.



Red Sierra onion (*Allium obtusum*) under lodgepole pine near Tamarack Meadows, Jackson County. Photo by Frank Callahan.

Peninsular Onion
Allium peninsulare Lemmon ex Greene

Named by Edward Lee Greene (1888) from a description made by John Lemmon in Baja California. It was first collected in Oregon on 10 July 1931 by Morton E. Peck. Rare in Oregon, Peninsular onion is found in or adjacent to the Soda Mountain Wilderness in Jackson County ([source](#)). In California, this species ranges to the Baja peninsula, the source of its name. In Oregon, it grows in seasonally wet meadows on clay soils, sometimes derived from serpentine at 1600-1800 m, and flowers April-June.

The outer bulb coat has an obvious herringbone patterned reticulum. Two to three faintly channeled leaves are 8-30 cm long; a round, solitary scape is up to 45 cm. A loose umbel holds 5-35 reddish-purple, bell-shaped flowers. The outer tepals are longer and wider than the inner ones, and the latter may be minutely toothed and spreading at the tip. Stamens are shorter than the tepals, the anthers are yellow, and ovaries have three two-lobed crests.



Distribution map courtesy of the OregonFlora.



Peninsular onion (*Allium peninsulare*). Photo by Frank Callahan.

Sanborn's Onion
Allium sanbornii Alph. Wood

Sanborn's onion was described by Alphonso Wood (1868) from material collected along the Pacific coast (in California) in 1866. This specimen was collected on the property of one "S. S. Sanborn esq" near Foster's Bar and was named for the landowner.

The core distribution of Sanborn's onion is in the foothills of the north and central Sierra Nevada. Scattered populations in Oregon occur northwest of Eight Dollar Mountain in Josephine County and between Panther Gulch and Gold Hill in Jackson County. Like many *Allium* species in the Siskiyou Mountains, Sanborn's onion prefers heavy clay soils overlying serpentine deposits. It flowers June-August.

This onion lacks an obvious reticulum on the dark red-brown outer bulb coat. A solitary round leaf is 30-45 cm long. The scape (up to 60 cm) and leaves persist to seed maturity. Perched upon this tall scape is a compact umbel

of 18-190 white or pink bell-shaped flowers with a dark pink midvein. The tepals are unequal, the outer whorl is reflexed at the tip and narrower and shorter than the inner whorl. The stamens are longer than the tepals and bear yellow or purple anthers. Each ovary chamber has two prominent triangular crests.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.



Sanborn's onion (*Allium sanbornii*). Photo by Frank Callahan.

Jeweled Onion
Allium serra McNeal & Ownbey

Dale McNeal collected the type specimen on 11 April 1968 in Canyon Del Puerto, Stanislaus County (McNeal and Ownbey 1977). The specific epithet refers to the serrated edge when the herringbone outer bulb coat breaks apart.

In California, jeweled onion grows in open grasslands on heavy clay soils, including serpentine, at 30-1200 m in the central and north Coast Ranges and flowers in May. A population was discovered east of Sexton Mountain in Josephine County. View the specimen [here](#). It was growing on serpentine substrates under Oregon white oak (*Quercus garryana*).

The outer bulb coats are prominently reticulate in a distinct herringbone pattern. Leaves number two or three and are no longer than the scape (15-40 cm). Umbels



Flowers of jeweled onion. Photo by Frank Callahan.



Distribution map courtesy of the Consortium of Pacific Northwest Herbaria.

shatter after seeds mature, each flower and its pedicel falling separately. The inner whorl of pink to rose tepals is shorter and narrower than the outer whorl. Stamens are shorter than the tepals. Anthers and pollen are yellow, and the ovary has three minute two-lobed crests.



Jeweled onion (*Allium serra*) in the understory of Oregon white oak. Photo by Frank Callahan.

Siskiyou Onion

Allium siskiyouense Ownbey ex Traub

Marion Ownbey named this species from a type specimen grown in Pullman in 1953 from bulbs collected "in the Siskiyou Mountains near the California line" (Traub 1972). Siskiyou onion is limited to the Klamath Mountains of southwestern Oregon and northern California. It grows on serpentine outcrops and on volcanic soils of various textures (rocky, sandy, or clay) on ridges, slopes, and open forest sites at 300-2100 m and flowers May-July.

The gray-brown outer bulb coat of Siskiyou onion lacks an obvious reticulum. Two flat, falcate leaves are 8-18 cm long and the scape is short (3-8 cm). The compact umbel of 10-35 bright pink, bell-shaped flowers usually rests on the soil surface. The equal tepals have a dark midvein and become rigid in fruit. Stamens are shorter than the tepals, and the anthers are yellow or light purple. Each ovary lobe bears small two-lobed crests.



Umbel of Siskiyou onion, showing lanceolate tepals and short stamens with yellow anthers. Photo by Gerald D. Carr.



Distribution map courtesy of the OregonFlora.



Siskiyou onion. Photo by Frank Callahan.



Siskiyou onion (*Allium siskiyouense*) in the Cascade-Siskiyou National Monument, Jackson County. Photo by Frank Callahan.

The Future of Native *Allium* Species

Of the 44 Oregon taxa in this article, 14 are listed as rare, threatened, or endangered, assigned special status, and/or are listed as vulnerable by various agencies. Threats to native *Allium* species range from excessive herbivory and habitat degradation to total loss of habitat. Herbivory by non-native animals severely reduces *Allium* populations. Cattle trample or consume the leaves and flowers, without which plants cannot replenish reserves in the bulb or produce seeds. The introduction of non-native birds has also damaged *Allium* populations. Chukar (*Alectoris chukar*) introduced in 1951 have severely reduced populations of *Allium* species with shallow bulbs, such as dwarf onion and Simil onion. Bird hunters in the Mahogany Mountain area (Malheur County) noticed an odor when cleaning killed birds and discovered that chukar crops were full of *Allium* bulbs. Non-native, wild turkeys (*Meleagris gallopavo*) are heavy consumers of *Allium* bulbs and above-ground parts,

severely reducing *Allium* populations in areas where the birds have been introduced.

Populations can recover if excessive herbivory is prevented, but habitat degradation has more serious long-term consequences. When livestock grazing compacts the soil, it not only crushes bulbs, but alters the hydrologic cycle. Instead of infiltrating the soil, water runs off site. Disturbance from excessive grazing also favors invasive non-native species, which compete with *Allium* species for sunlight and soil moisture.

Habitat is completely lost when sites are mined (including excavation for rock and gravel) or when converted to agriculture (pasture or farmland), infrastructure (roads), or urban development. In those cases, *Allium* populations are permanently destroyed.

May this article foster an appreciation for the beauty and diversity of native *Allium* species in Oregon.

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Authors



Cindy Roché has edited and written articles for *Kalmiopsis*, the annual journal of the Native Plant Society of Oregon, for 22 years (since 2000). Her BS and MS degrees in Forest and Range Management are from Washington State University and PhD from the University of Idaho. She moved to Oregon and joined NPSO in 1999 and has been learning about Oregon's native plants and habitats ever since, first in the Rogue Valley and now in the eastern half of the state. While emphasis has been on graminoids, mostly grasses (but also sedges), her interests extend to many other vascular plants, including invasive species. When Frank shared his discoveries of *Allium* species in Oregon, she set about to make this Occasional Paper a resource for NPSO members to learn about this beautiful and fascinating genus.



Frank Callahan is a veteran author, having published many articles in *Kalmiopsis*: California Buckeye (2005), Hinds Walnut in Oregon (2008), Discovering Gray Pine in Oregon (2009), Botanizers in the Land of Conifers: Oliver Matthews, Al Hobart, Eugene Parker (2013), Cypress Species in Oregon (2013), Milkweeds are Not Weeds (2020), Marah Mysteries: Confusion over Wild Cucumber (2022). Callahan's botanical detective work encompasses a breadth of other sciences, including geology, soils, hydrology, plant geography, topography, and local weather patterns. He has discovered species range extensions by carefully observing habitat preferences of *Allium* in adjacent states so he can target his explorations at sites with similar conditions in Oregon.



Kareen Sturgeon served on the editorial board for *Kalmiopsis* for 12 years (since 2011). She moved to Oregon in 1980 after receiving her doctorate in plant evolution and ecology from the University of Colorado and taught botany at Linfield College (now University) for 27 years. Each spring, she and her students traveled throughout the state, especially to southeastern Oregon and the Siskiyou, to explore Oregon's incredible floristic diversity. She co-founded the Cheahmill Chapter of NPSO and served as its first president, and she led hiking tours – attended by many NPSO members – to one of the most floristically diverse regions of the Swiss Alps.



Nathan LeClear holds a BS in biology from Emporia State University, Kansas, and an MS in biology from the University of Texas, Rio Grande Valley, where he worked on the ethnobotany and seed oil chemistry of physic nut (*Jatropha curcas*). He earned a PhD in plant biology at the University of Texas at Austin, where he studied the phylogenetics and biogeography of *Jatropha* from the population to global level. He has worked as a botanist throughout the Pacific Northwest and Intermountain West, conducting surveys for the Forest Service and Bureau of Land Management. Nathan first moved to Eugene, Oregon, in 2007 to collect seeds for wetland restoration and now lives in Renton, Washington. He loves the diverse landscape of Oregon, and the Pacific Northwest in general, with all the opportunities for botanical exploration.

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Tolmie's onion (*Allium tolmiei*) grows among andesitic lava rocks in the Bridge Creek Wilderness at about 1960 m. elevation. The clayey soil is subject to frequent freeze-thaw cycles (frost heaving). Photo by Robert C. Korfhage on June 19, 2020.



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